determine when a trend has ended." (Boemer specification page 3, lines 14-19)

Matsuoka's trends do not appear to be generally increasing or decreasing- they appear to be sequences of flat data which jump between discrete levels.

Masuoka's jumping trends

For instance, the data in FIG. 15 of Matsuoka jumps between a mean value of 4 and -4 (Matsuoka col. 21, lines 38-42).

> "In the time-series data shown in FIG. 15, the discontinuous switches of the mean values at the boundaries of the four segments of time t ... are represented as data jumping trends. Such discontinuous jumping trends are estimated by the time-series trend estimating system." (Matsuoka col. 21, lines 47-52)

> "FIG. 18 shows time-series data of a jumping trend containing an abnormal value." (Matsuoka col. 22, lines 13-15)

Most example figures (Matsuoka FIGs 15-36) and discussion in Matsuoka appear to be directed trends which jump between two values.

The Matsuoka example of FIGs. 37 and 38 show a different type of discontinuous trend where a value is continuously output for a certain period, and then switched to another value.

> "FIGS. 37 and 38 show specific test data and the estimation results on the data respectively obtained by the h2r1-NN and h2r2-NN. The parameters of each CSSRNN are shown in FIGS. 25 and 32. In this test data, any value of {-1, 0, -0.5, -0.2, -0.1, 0.0, 0.1, 0.2, 0.5, 1.0} is continuously output for a certain period. Then, the value is discontinuously switched into another value. The test data is generated by appropriately selecting a combination of these values. This experiment aims at clarifying the functions of the recurrent coefficient (register coefficient) and the threshold of a context layer. **That is, the object is to qualitatively determine the change in aspect and the switches of trends** for the input $x^{(t)}$. In FIGS. 37 and 38, black squares indicate test data while white squares indicate the values estimated by the h2r1-NN. White circles

indicate the values estimated by the h2r2-NN." (Matsuoka col. 28, lines 24-38)

3. The examiner argues that Matsuoka's computer system is capable of breaking a time series into a plurality of discontinuous trends, so that it would be obvious to one skilled in the art to modify Matsuoka's computer system for breaking a time series into a plurality of discontinuous trends in a specific way. However, in view of the substantial differences in the types of time series addressed by the current invention and by Matsuoka, Matsuoka does not render the current invention obvious to one skilled in the art. Even if it could be modified for the general case, Applicant respectfully argues that such modification is not taught by Matsuoka, and that such modification would require undue experimentation, and is therefore not practical.

4. Independent claim 1 has been amended to recite that at least a portion of the time series data includes a trend that is generally increasing or decreasing.

"processing means"

5. The examiner equates the "processing means" of the current invention to item 3 of Matsuoka. Applicant respectfully argues that even if the goals of the current invention and Matsuoka were the same, the system and methods employed are substantially different. In particular, Matsuoka employs a "column-structured simple recurrent neural network" (col. 6, lines 59-61); to obtain a single candidate for estimated value (col. 5, lines 48-50), with use of a defined probability distribution function (col. 6, line 1). Matsuoka uses a simplex method for optimization. (col 9, lines 34-36).

    By contrast, the current invention is substantially different. The current invention uses a plurality of sets of trend determination parameters on a subset of the data, and determines which set or sets of parameters are the best predictors. This determination can be automatic or manual.

claims amendments

6. Claims 1-25 have been amended to recite method claims for claims 1-25; and to correct errors.

7. Claim 1 has been amended to recite determining whether a new data point is a continuation of a generally increasing or decreasing trend.

8. Applicant believes that all claims are now in condition for allowance.

Thank you for your continued assistance in this application.

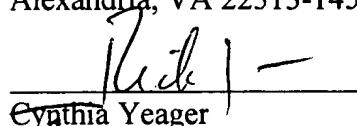Dated: October 5, 2005

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